Most Essential Questions are interdisciplinary in nature. They cut across the lines created by schools and scholars to mark the terrain of departments and disciplines. Essential Questions probe the deepest issues confronting us . . . complex and baffling matters which elude simple answers: Life - Death - Marriage - Identity - Purpose - Betrayal - Honor - Integrity - Courage - Temptation - Faith - Leadership - Addiction - Invention - Inspiration.

Example of Essential Questions on Friendship

- What does it mean to be a good friend?
- What kind of friend shall I be?
- Who will I include in my circle of friends?
- How shall I treat my friends?
- How do I cope with the loss of a friend?
- What can I learn about friends and friendships from the novels we read in school?
- How can I be a better friend?

Example of Essential Questions on Civil War

- Why do we have to fight wars?
- Do we have to fight wars?
- How could political issues or ideas ever become more important than family loyalties?
- Some say our country remains wounded by the slavery experience and the Civil War. In what ways might this claim be true and in what ways untrue? What evidence can you supply to substantiate your case?
- Military officers often complain that the effective conduct of modern war is impeded by political interference and popular pressures on the home front. To what extent did this also prove true during the Civil War?
- How can countries avoid the kind of bloodshed and devastation we experienced during our Civil War?
- How much diversity can any nation tolerate?
- Who showed greater bravery and courage, the front line soldiers and the nurses who tended to the wounded and dying or the leaders of the war effort?
- Should there be a law against war profiteering?

Subsidiary Questions

These are questions which combine to help us build answers to our Essential Questions. Big questions spawn families of smaller questions which lead to insight.

We have several strategies from which to choose when developing a comprehensive list of Subsidiary Questions for our project:

Different Types of Questions

- We can brainstorm and list every question which comes to mind, utilizing a huge sheet of paper or a word processing program or a graphical organizing program such as putting down the questions as they "come to mind." Later we can move these around until they end up alongside of related questions. This movement is one advantage of software. This approach has the benefit of spontaneity.
- We can take a list of question categories like the one outlined in this article and generate questions for each category. This approach helps provoke thought and questions in categories which we might not otherwise consider.

Examples of Subsidiary Questions

Worst that can happen?
Potential benefits?
Obstacles which must be overcome?
Available resources?
Sufficient resources?
Additional resources?
Good models?
How prepare students?
How prepare parents?
Relationship to discipline code?
Timing?
Who does what?
Assessing progress?

Hypothetical Questions - These are questions designed to explore possibilities and test relationships. They usually project a theory or an option out into the future, wondering what might happen if . . .

Suppose the earth had no moon.
What if the South had won the Civil War?

Hypothetical Questions are especially helpful when trying to decide between a number of choices or when trying to solve a problem.

When we began to generate questions which would help us decide whether or not to offer e-mail accounts to our students, we asked. .

What's the worst that might happen?
What are the potential benefits?

Hypothetical Questions are useful when we want to see if our hunches, our suppositions and our hypotheses have any merit.

Telling Questions lead us (like a smart bomb) right  to the target. They are built with such precision that they provide sorting and sifting during the gathering or discovery process. They focus the investigation so that we gather only the very specific evidence

and information we require, only those facts which "cast light upon" or illuminate the main question at hand.

> In schools which give students e-mail accounts, what is the rate of suspension for abusing the privilege?
> In schools which give students e-mail accounts, what percentage of students lose their privilege during each of the first ten months? Second ten months?

Planning Questions lift us above the action of the moment and require that we think about how we will structure our search, where we will look and what resources we might use such as time and information.

Examples of Planning Questions

Sources

- Who has done the best work on this subject?
- Which group may have gathered the best information?
- Which medium (Internet, CD-ROM, electronic periodical collection, scholarly book, etc.) is likely to provide the most reliable and relevant information with optimal efficiency?
- Which search tool or index will speed the discovery process?

Sequence

- What are all of the tasks which need completing in order to generate a credible product which offers fresh thought backed by solid evidence and sound thinking?
- What is the best way to organize these tasks over time? How much time is available? Which tasks come first, and then . . .?
- Which tasks depend upon others or cannot be completed until others are finished?

Pacing

- How much time is available for this project?
- How long does it take to complete each of the tasks required?
- How much time can be applied to each task?
- Do some tasks require more care and attention than others?
- Can some tasks be rushed?
- Is it possible to complete the project in the time available?
- How should the plan be changed to match the time resources?

Organizing Questions make it possible to structure our findings into categories which will allow us to construct meaning. The less structure we create in the beginning, the harder it becomes later to find patterns and relationships in the fragments or the collection of bits and pieces.

Different Types of Questions

There are various ways organize questions

Outline Ideas

1. First
2. Second
3. Third

Web Ideas

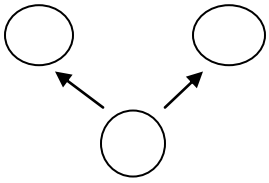
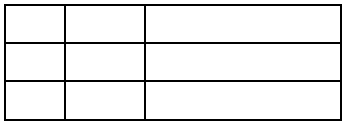


Table Ideas



Probing Questions: When it comes to information-seeking, the convergence is established by creating a logical intersection of search words and key concepts, the combination of which is most likely to identify relevant sites and articles. Probing Questions allow us to push search strategies well beyond the broad topical search to something far more pointed and powerful.

And when we first encounter an information "site," we rarely find the treasures lying out in the open within easy reach. We may need to "feel for the vein" much as the lab technician tests before drawing blood. This "feeling" is part logic, part prior knowledge, part intuition and part trial-and-error.

Logic - We check to see if there is any structure to the way the information is organized and displayed, if there are any sign posts or clues pointing to where the best information resides. We assume the author had some plan or design to guide placement of information and we try to identify its outlines.

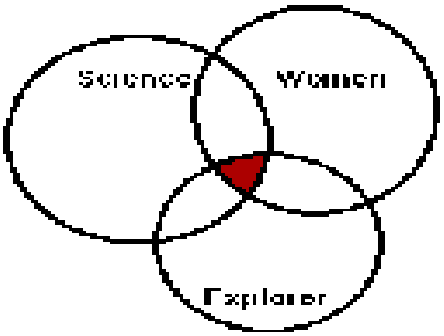
Prior Knowledge - We apply what we have seen and known in the past to guide our search. We consider information about the topic and prior experience with information sites. This prior knowledge helps us to avoid dead ends and blind alleys. It helps us to make wise choices when browsing through lists of "hits." Prior knowledge also makes it easier to interpret new findings, to place them into a context and distinguish between "fool's gold" and the real thing.

Intuition - We explore our hunches, follow our instincts, look for patterns and connections, and make those leaps our minds can manage. Especially when we are hoping to create new knowledge and carve out new insights, this non-rational, non-logical form of information harvesting is critically important.

Trial-and-Error - Sometimes, nothing works better than plain old "mucking about." Push here. Tug there. Try this out! We find a site with so much information and so little structure that we have little choice but to plunge in and see what we can find.

Different Types of Questions

Example of Probing Model



Sorting & Sifting Questions enable us to manage Info-Glut and Info-Garbage - the hundreds of hits and pages and files which often rise to the surface when we conduct a search - culling and keeping only the information which is pertinent and useful. Relevancy is the primary criterion employed to determine which pieces of information are saved and which are tossed overboard. We create a "net" of questions which allows all but the most important information to slide away. We then place the good information with the questions it illuminates.

- Which parts of this data are worth keeping?
- Will this information shed light on any of my questions?"
- Is this information reliable?
- How much of this information do I need to place in my database?
- How can I summarize the best information and ideas?
- Are there any especially good quotations to paste in the abstract field?

Different Types of Questions

Clarification Questions convert fog and smog into meaning. A collection of facts and opinions does not always make sense by itself.

Defining words and concepts is central to this clarification process.

- What do they mean by "violent crime rate?" Do they use the same definition and standards as the FBI?
- What do they mean by "declining rate of increase?"
- How did they gather their data? Was it a reliable and valid process? Do they show the data and evidence they claim to have in support of their conclusions? Was substantial enough to justify their conclusions?
- Did they gather evidence and data?

Examining the coherence and logic of an argument, an article, an essay, an editorial or a presentation is fundamental.

- How did they develop the case they are presenting?
- What is the sequence of ideas and how do they relate one to another?
- Do the ideas logically follow one from the other?

Determining the underlying assumptions is vital.

- How did they get to this point?
- Are there any questionable assumptions below the surface or at the foundation of the argument?

Different Types of Questions

Strategic Questions focus on Ways to Make Meaning. The researcher must switch from tool to tool and strategy to strategy while passing through unfamiliar territory. Close associated with the Planning Questions formulated early on in this process, Strategic Questions arise during the actual hunting, gathering, and inferring, synthesizing and ongoing questioning process.

- What do I do next?
- How can I best approach this next step? this next challenge? This next frustration?
- What thinking tool is most apt to help me here?
- What have I done when I've been here before? What worked or didn't work? What have others tried before me?
- What type of question would help me most with this task?
- How do I need to change my research plan?

Elaborating Questions extend and stretch the import of what we are finding. They take the explicit and see where it might lead. They also help us to plum below surface to implicit (unstated) meanings.

- What does this mean?
- What might it mean if certain conditions and circumstances changed?
- How could I take this farther? What is the logical next step? What is missing? What needs to be filled in?
- Reading between the lines, what does this REALLY mean?
- What are the implied or suggested meanings?

Unanswerable Questions are the ultimate challenge.

They serve like boundary stones, helping us to tell us when we have pushed insight to its outer limits. When exploring essential questions (most of which are unanswerable in the ultimate sense) we may have to settle for "casting light" upon them. When wrestling with these Unanswerable Questions we may never find Truth, but we may illuminate . . . extend the level of understanding and reduce the intensity of the darkness.

- How will I be remembered?
- How much can anyone resist Fate's will?
- What is the Good Life?
- What is friendship?
- How would life be different if . . .

Inventive Questions turn our findings inside out and upside down. They distort, modify, adjust, rearrange, alter, twist and turn the bits and pieces we have picked up along the way until we can shout "Aha!" and proclaim the discovery of something brand new.

- How do I make sense of these bits and bytes and pieces?
- What does all this information really mean?
- How can I rearrange what I have gathered so that some picture or new insight emerges?
- What needs to be eliminated or reversed or modified in order to make better sense of my findings?
- What is still missing?
- Can any information be regrouped or combined in ways which help meaning to emerge?
- Can I display this information or data in a way which will cast more light on my essential question?

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